

**Subpart H—Standards for Processor-Based  
Signal and Train Control Systems**

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 INTERFACE (HMI) DESIGN

AUTHORITY: 49 U.S.C. 20103, 20107, 20501–  
 20505; 28 U.S.C. 2461, note; and 49 CFR 1.49.

SOURCE: 33 FR 19684, Dec. 25, 1968, unless  
 otherwise noted.

**§ 236.0 Applicability, minimum re-  
quirements, and penalties.**

- (a) Except as provided in paragraph
- (b) of this section, this part applies to all railroads.
- (b) This part does not apply to—
  - (1) A railroad that operates only on track inside an installation that is not part of the general railroad system of transportation; or
  - (2) Rapid transit operations in an urban area that are not connected to the general railroad system of transportation.
- (c) Where a passenger train is operated at a speed of 60 or more miles per hour, or a freight train is operated at a speed of 50 or more miles per hour, a block signal system complying with the provisions of this part shall be installed or a manual block system shall be placed permanently in effect which shall conform to the following conditions:

(1) A passenger train shall not be admitted to a block occupied by another train except under flag protection;

(2) No train shall be admitted to a block occupied by a passenger train except under flag protection;

(3) No train shall be admitted to a block occupied by an opposing train except under flag protection; and

(4) A freight train, including a work train, may be authorized to follow a freight train, including a work train, into a block but the following train must proceed prepared to stop within one-half the range of vision but not exceeding 20 miles per hour.

(d) Where any train is operated at a speed of 80 or more miles per hour, an automatic cab signal, automatic train stop or automatic train control system complying with the provisions of this part shall be installed.

(e) Nothing in this section authorizes the discontinuance of a block signal system, interlocking, traffic control system, automatic train stop, train control, or cab signal system without approval of the Federal Railroad Administration.

(f) Any person (an entity of any type covered under 1 U.S.C. 1, including but not limited to the following: a railroad; a manager, supervisor, official, or other employee or agent of a railroad; any owner, manufacturer, lessor, or lessee of railroad equipment, track, or facilities; any independent contractor providing goods or services to a railroad; and any employee of such owner, manufacturer, lessor, lessee, or independent contractor) who violates any requirement of this part or causes the violation of any such requirement is subject to a civil penalty of at least \$550 and not more than \$11,000 per violation, except that: Penalties may be assessed against individuals only for willful violations, and, where a grossly negligent violation or a pattern of repeated violations has created an imminent hazard of death or injury to persons, or has caused death or injury, a penalty not to exceed \$27,000 per violation may be assessed. Each day a violation continues shall constitute a separate offense. See appendix A to this part for a statement of agency civil penalty policy.

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(g) A person may also be subject to criminal penalties for knowingly and wilfully making a false entry in a record or report required to be made under this part, filing a false record or report, or violating any of the provisions of 49 U.S.C. 21311.

(h) The requirements of subpart H of this part apply to safety-critical processor-based signal and train control systems, including subsystems and components thereof, developed under the terms and conditions of that subpart.

[49 FR 3382, Jan. 26, 1984, as amended at 53 FR 52936, Dec. 29, 1988; 63 FR 11624, Mar. 10, 1998; 69 FR 30595, May 28, 2004; 70 FR 11095, Mar. 7, 2005]

EFFECTIVE DATE NOTE: At 72 FR 51198, Sept. 6, 2007, paragraph (f) in §236.0 was amended by removing the numerical amount “\$11,000” and adding in its place the numerical amount “\$16,000”, effective October 9, 2007.

### Subpart A—Rules and Instructions: All Systems

#### GENERAL

#### § 236.1 Plans, where kept.

As required for maintenance, plans shall be kept at all interlockings, automatic signals and controlled points. Plans shall be legible and correct.

[49 FR 3382, Jan. 26, 1984]

#### § 236.2 Grounds.

Each circuit, the functioning of which affects the safety of train operations, shall be kept free of any ground or combination of grounds which will permit a flow of current equal to or in excess of 75 percent of the release value of any relay or other electromagnetic device in the circuit, except circuits which include any track rail and except the common return wires of single-wire, single-break, signal control circuits using a grounded common, and alternating current power distribution circuits which are grounded in the interest of safety.

#### § 236.3 Locking of signal apparatus housings.

Signal apparatus housings shall be secured against unauthorized entry.

[49 FR 3382, Jan. 26, 1984]

#### § 236.4 Interference with normal functioning of device.

The normal functioning of any device shall not be interfered with in testing or otherwise without first taking measures to provide for safety of train operation which depends on normal functioning of such device.

[49 FR 3382, Jan. 26, 1984]

#### § 236.5 Design of control circuits on closed circuit principle.

All control circuits the functioning of which affects safety of train operation shall be designed on the closed circuit principle, except circuits for roadway equipment of intermittent automatic train stop system.

#### § 236.6 Hand-operated switch equipped with switch circuit controller.

Hand-operated switch equipped with switch circuit controller connected to the point, or with facing-point lock and circuit controller, shall be so maintained that when point is open one-fourth inch or more on facing-point switch and three-eighths inch or more on trailing-point switch, track or control circuits will be opened or shunted or both, and if equipped with facing-point lock with circuit controller, switch cannot be locked. On such hand-operated switch, switch circuit controllers, facing-point locks, switch-and-lock movements, and their connections shall be securely fastened in place, and contacts maintained with an opening of not less than one-sixteenth inch when open.

#### § 236.7 Circuit controller operated by switch-and-lock movement.

Circuit controller operated by switch-and-lock movement shall be maintained so that normally open contacts will remain closed and normally closed contacts will remain open until the switch is locked.